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ABSTRACT

Observational findings regarding differentiated child behavior in Follow Through classrooms for the year 1973 are presented. The interactional behavior of three groups of elementary school children from different classroom settings (Bank Street School for Children, an open classroom approach; Bank Street Follow Through, an open classroom approach; non-Follow Through, traditional classroom approach) was observed using the Differentiated Child Behavior Observation System (DCB). This instrument is used for recording in quantifiable form selected attributes of children's classroom interaction such as: gives information, asks questions, expresses, acts destructively, organizes and manages, represents and symbolizes. It also provides a means for coding both interactional and substantive aspects of classroom behavior. The results of the study showed the Follow Through classroom to be a more active classroom setting than non-Follow Through Classrooms. (MLP)

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Children's Interactions in Follow Through Classrooms: The DCB Observational System*

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Evaluation studies of program effectiveness have generally relied upon standardized measures of pupil achievement. More recently, the recognition of the need for more encompassing program analysis measures has resulted in assessments which also provide for systematic observations of teacher behavior and teacher-pupil interactions. However, the analysis of interactional behaviors has served primarily as a means of describing the antecedent conditions of an evaluation study as they relate to pupil achievement scores. Pupil outcome measures have been defined in terms of product variables rather than process variables.

This paper reports on an alternative approach which provides a focus on the quantity and quality of children's classroom interactions, or the educational process itself, as one important measure of the effect of the combined elements of program, teacher and classroom variables on children's functioning. While it is not suggested that this form of program analysis supplant other measures, it is contended that the way the child actually functions in the classroom is in and of itself a most significant educational outcome, and one that has generally been overlooked.

Piaget emphasizes the significance of children's interactions with each other in the classroom, stating "...the cooperation among the children themselves has an importance as great as that of adult action. From the intellectual point of view, it is such cooperation that is most apt to encourage real exchange of thought or discussion, which is to say all the forms of behavior capable of developing the

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critical attitude of mind, objectivity and discursive reflection. From the moral point of view it results in a real exercise of the principles of behavior and not solely in a submission to external constraints."[1]

One might also argue that the substance of pupil interactions, whether directed to another pupil or to the adult, reflects the extent to which the opportunities for learning provided by the setting, the curriculum and the procedures have indeed been translated into actual learning experiences.

The need for a greater focus on pupil behavior has been stressed most recently by researchers concerned with the paucity of documentation of children's experiences in different types of classrooms. Medley points to the centrality of this focus and its potential for providing significant information about educational programs, stating that he finds it difficult to understand why so little attention has been paid to pupil behavior in so many research studies.[2]

This area of investigation would appear to be particularly important at this time. Among the nationally funded Follow Through projects are included non-traditional educational approaches which provide us with alternative educational settings for poor children and stimulate new areas of inquiry regarding the effect of the various settings on children's functioning. Attitudes towards these approaches have often been generated by armchair speculation regarding their effects. Many educators reject methods which foster child autonomy because they associate more freedom for the child with license or with lack of discipline and control in the classroom. Others equate non-traditional progressive approaches with lack of "structure" and with lack of emphasis on academic learning and cognitive development. The fact that these assumptions remain largely unsupported, with virtually no research in this area, points to the need for further study.

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1. Jean Piaget. Science of Education and the Psychology of the Child. New York: Orion Press, 1970, 174-180.

2. Donald Medley. Written comments on symposium organized by Margaret Wang, AERA, New Orleans, 1973.

The Observational System

The Differentiated Child Behavior Observational System (DCB) was originally developed under the auspices of a Follow Through sponsor--Bank Street College of Education--as one of a number of self evaluation measures designed to assess the extent to which its own program had been successfully implemented.[1] The Bank Street sponsorship of Follow Through classes in 14 communities in the United States involves the implementation in inner-city public school classrooms of a "developmental-interaction" open classroom approach developed and applied over many decades in the College's own School for Children.[2]

The goals of this approach are to enable the children to function effectively and productively: to help them to develop into confident, inventive, constructive human beings who see themselves as learners, who feel responsible for their own development, who feel secure in the mastery of needed competencies and who are both free to express their own feelings and sensitive to the feelings of others.[3]

It has been aptly stated that the questions asked about a phenomenon determine to a great extent the kind of answers that are forthcoming. The development of an observational tool can perhaps be best described as resulting from the attempt to identify and formulate the kinds of questions that would produce relevant information and much needed answers. The basic question, of course, is what the focus should be--i.e., which observable behaviors are meaningful, relevant and lend themselves to objective, systematic quantification. This is a central problem when

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1. Elizabeth Gilkeson, the Director of this program, contributed significantly to the formative stages of the development of the DCB.

2. Edna Shapiro and Barbara Biber, "The Education of Young Children: A Developmental-Interaction Approach," Teachers College Record, September 1972, 74, 1.

3. Elizabeth Gilkeson, Garda Bowman, and David Wickens, Bank Street Approach to Follow Through, 1973 (mimeo).

dealing with an educational approach that is comprehensive, complex and has multi-faceted goals, such as that of Bank Street. Unfortunately, that which is most observable and easiest to identify may be less significant than subtle, complex behaviors which are more elusive.

The attempt in developing the DCB instruments was to consider the set of assumptions and values underlying the Bank Street Approach, as well as to delineate a detailed roster of typical classroom interactions. The category system, therefore, provides for a wide range of affective as well as cognitive and social behaviors and includes those which are highly valued as well as more routine, or less desirable acts.

The observation system consists of two instruments: the DCB Form and the DCB Scan. The DCB Form has been designed to provide data regarding the content as well as the source and direction of each entry and includes six major categories--Gives Information; Asks Questions; Expresses; Acts Destructively; Organizes and Manages; Represents and Symbolizes. Each of these categories includes from six to ten subcategories, designed to identify specific behaviors (both verbal and nonverbal) within each general category. The Classroom Scan provides a measure of the behavior of each child in the classroom during each of six time samples during the day and also provides for a description of the number and kinds of ongoing activities and groupings, the perceptual modes involved and degree of abstraction and dimensionality of activities and materials.

The DCB is used "live" in the classroom and the data are gathered by trained observers who encode children's interactional behaviors on timed and change of behavior bases. A distinctive feature of this system apart from its emphasis on the substantive aspects of children's interactions is that unlike many previously designed observational approaches it incorporates a number of procedures which are applicable to informal open classes as well as to more traditional settings.

Overview of Previous Findings

Our initial study, which involved three groups of elementary school children aged five through eight, sought to provide three reference points for examining the DCB data. The first group was drawn from the Bank Street School for Children which has a developmental-interaction, open classroom approach and consisted primarily of middle-class children. The second group came from Bank Street Follow Through classes in inner-city public schools also with an open classroom approach. The third group of children attended non-Follow Through inner-city public schools with a traditional classroom approach.

Findings showed in general that group differences superseded individual classroom differences. The groups differed markedly in the sheer number of interactions which were observed to take place, irrespective of the way in which they were categorized. The Bank Street School for Children classrooms totalled twice the number of interactions found in the traditional public school classes, with Follow Through closer to the Bank Street School, showing 60% more entries than the traditional classes ($p < .01$).

Turning to the findings with regard to the six major categories, a pattern similar to that obtained with the total number of interactions was found in relation to higher-order cognitive interactions including questioning behaviors, and in relation to autonomous behaviors, with Follow Through scores again closer to the Bank Street School and significantly higher than those of the traditional school classes. Approximately equal amounts of expressive behaviors were found in Bank Street School and Follow Through, with these frequencies almost twice those found in the traditional classes ($p < .05$ and $p < .01$). These differences, however, were relatively small when compared with the large differences in cognitive interactions.

Interestingly, this pattern was somewhat altered in the category concerned

with destructive behavior. Although the incidence of this type of behavior was low in all three groups, Follow Through was more like the traditional public school classes than the Bank Street School, with scores in the Follow Through and traditional classes approximately five times that of the Bank Street School ($p < .01$). However, in Follow Through this frequence represented a considerably smaller proportion of its total behaviors than in the traditional classes.

Findings relating to the source and direction of behaviors indicated a far greater number of child-initiated behaviors in Follow Through and Bank Street School groups than in the traditional classes ($p < .001$), although the number of behaviors elicited by the adult was similar in the three groups. However, the Bank Street School totalled considerably more child-initiated behaviors directed to the adult than did either Follow Through or the traditional public school classes.

In summary, although both in socioeconomic level of population and public school setting, the Follow Through classes were more like the traditional public school classes than the Bank Street School for Children, the DCB findings indicated that the children's interactions in Bank Street Follow Through classes were more like those in the Bank Street School classes than those of the traditional public school. It should be pointed out that the Follow Through classes did not all manifest identical patterns, but could be identified along a continuum, with some classes showing patterns very similar to those of the Bank Street School, and some closer to those of the traditional public school.

The design of the subsequent study provided for a look at a broader sample of Bank Street Follow Through classes with at least four classrooms (K through third grade) observed in each of 12 communities. Classes representing teachers new to the project as well as those who had been with the project for one year or more, were included in order to provide a representative sample of Follow

Through classes in which the Bank Street approach was being implemented.[1] In addition, non-Follow Through classes in the regular school system of one of the communities served as a comparison group.[2]

In general, results supported the findings of the previous study:

1) Follow Through was again shown to total a significantly higher score than traditional, non-Follow Through classes indicating that Follow Through classrooms represented more active classroom settings than did the non-Follow Through classrooms.

2) Among the six categories of the system, the most frequently recorded category of behavior was Category I, concerned with giving information, cognitive domain. The children in Follow Through classes showed a greater proportion of higher level cognitive behaviors in this category than did non-Follow Through children ($p < .01$).

3) The second most frequent category of behaviors recorded was Category III, Expresses. The total number of behaviors in this category was substantially greater in Follow Through classes than in non-Follow Through classes ($p < .001$).

4) The children in Follow Through evidenced more autonomy than did the children in non-Follow Through ($p < .001$).

5) Low incidence of destructive behavior was shown in both groups with the score in Follow Through representing a slightly lower proportion of its total behaviors.

One difference in the findings from those reported on previously, related to Category II, Asks Questions. Although Follow Through had a higher total,

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1. In the initial study, the Follow Through classes were selected on the basis of the teacher's experience with the Bank Street approach and its effective enactment.

2. A rigorous test of significance (Cochran-Cox test) was used in order to compensate for the limitations of a comparison group drawn from a single community.

this difference was not statistically significant. This could be attributable to the broader sample of Follow Through teachers in the second study.

Additional findings that were of interest related to behaviors elicited by the adult: It was found that Follow Through teachers elicited a significantly greater number of higher level cognitive responses than did non-Follow Through teachers ($p < .01$), whereas teachers in non-Follow Through elicited a substantially greater number of routine and rote entries, including choral type responses ($p < .01$). It was also shown that Follow Through classes not only had a far greater proportion of reading and writing experiences than did non-Follow Through, but also had more opportunities for freer representational experiences such as painting, drawing and sculpture.

Current work on the DCB is concerned with final revision and refinement of the instrument in preparation for its dissemination. In order to extend the range of classrooms studied with the DCB, our current work is located in 17 different classrooms, only one of which is connected with Bank Street. In our current sample we have included: open classrooms in New York City public schools with children of low income, multi-ethnic families; classrooms in "progressive" private schools with children of predominantly middle-income, white families.

In addition, we have a sample of records obtained from England. The results, while not yet fully analyzed, conform to the patterns previously obtained. DCB scores vary according to the method of educational programming employed and the socioeconomic background of the children. In addition to providing an analysis of DCB category and subcategory scores, our present study will present the findings of an independent assessment of the teaching behavior in eleven of our classrooms and the relation of these results to DCB scores. We will also obtain more refined reliability information than we have heretofore gathered.

Our next study, already begun, examines the applicability of the DCB data

gathering and data analytic schemes to the observation of individual children in the classroom.